



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,121	08/30/2001	Paul Shirley	303.774US1	2066

21186 7590 07/31/2003

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. BOX 2938  
MINNEAPOLIS, MN 55402

EXAMINER

TILL, TERRENCE R

ART UNIT PAPER NUMBER

1744

DATE MAILED: 07/31/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/945,121

Applicant(s)

SHIRLEY ET AL.

Examiner

Terrence R. Till

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 27-36, 41, 44, 52, 53, 70 and 78 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-26, 61-69 and 71-76 is/are allowed.
- 6) ☒ Claim(s) 1-7, 37, 49, 56, 59, 77 and 79 is/are rejected.
- 7) ☒ Claim(s) 38, 39, 42, 43, 45-48, 50, 51, 54, 55, 57, 58, 60, 80 and 81 is/are objected to.
- 8) ☒ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

Art Unit: 1744

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 27-36, 40, 41, 44, 52, 53 and 78 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.
2. Claim 70 is withdrawn from consideration as the embodiment elected -with the ceramic cleaning head- is considered to be harder than the cleaning surface.

### *Specification*

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 71, the limitations of the head being harder than the cleaning surface is not in the specification.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7, 37, 49, 56, 59, 77 and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al.
6. The patent to Tanaka et al. discloses an automated cleaning device having a spindle chuck 21 engaging device 29 and a particle removal surface 33a. Tanaka et al. also disclose an

Art Unit: 1744

arm 30a having a joint 81 connected to a fixed support (see figure 6), a spin drive 91 rotating the particle removal surface relative to the spindle chuck. The recitations "for a spindle chuck", "adapted to remove a particle from a spindle chuck", "capable of cleaning the spindle chuck assembly", "adapted to non-manually clean contaminants from the spindle chuck" are considered the intended use of the claimed device. With respect to claim 77, the device of Tanaka et al. is considered to disclose a cleaning head positioned less than the minimum acceptable size of a particle from the chuck, as this minimum acceptable size has defined limit.

7. It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

*Allowable Subject Matter*

8. Claims 38, 39, 42, 43, 45-48, 50, 51, 54, 55, 57, 58, 60, 80 and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 8-26, 61-69 and 71-76 are allowed.

10. The following is an examiner's statement of reasons for allowance: With respect to claims 8 and 15, the prior art does not disclose nor render obvious the claimed combination of subject matter, particularly a vacuum source for removing the particle from a spindle chuck. With respect to claim 22, the prior art does not disclose nor render obvious the claimed combination of subject matter, particularly a ceramic surface on the spindle chuck-engaging device. With respect to claim 61, the prior art does not disclose nor render obvious the claimed combination of subject matter, particularly an alignment and exposure device. With respect to

Art Unit: 1744

claim 71, the prior art does not disclose nor render obvious the claimed combination of subject matter, particularly wherein the cleaning head is harder than the cleaning surface. With respect to claim 72, the prior art does not disclose nor render obvious the claimed combination of subject matter, particularly the spindle chuck includes a head formed of polyetheretherketone.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Ueki et al., Nishimura et al., the publication to Hunter et al., and Japanese patents to Disco KK, Kakei et al. and Sony show the current state of the art in semiconductor wafer processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Till whose telephone number is (703) 308-1592. The examiner can normally be reached on Mon. through Thurs. and every other Friday.

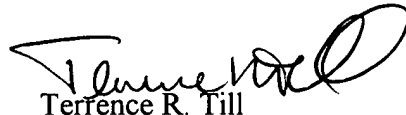
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 09/945,121

Page 5

Art Unit: 1744

A handwritten signature in black ink, appearing to read "Terrence R. Till", with a large, stylized loop at the end.

Terrence R. Till  
Primary Examiner  
Art Unit 1744

trt

July 28, 2003